

## Analytical Report

Lab Order: 1508657

Date Reported:

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Weston Solutions  
**Project:** Site #20406.016.001.0958.01 Gold King Mine

**Lab Order:** 1508657**Lab ID:** 1508657-001**Collection Date:** 8/13/2015 12:10:00 PM**Client Sample ID:** TSA-SA001-150813-51**Matrix:** SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 6010B: SOIL METALS

Analyst: ELS

Aluminum	8800	29	290		mg/Kg	100	8/14/2015 6:13:55 AM	20783
Antimony	ND	1.1	2.4		mg/Kg	1	8/14/2015 6:30:36 AM	20783
Arsenic	2.3	0.70	2.4	J	mg/Kg	1	8/14/2015 6:30:36 AM	20783
Barium	210	0.046	0.096		mg/Kg	1	8/14/2015 6:30:36 AM	20783
Beryllium	0.51	0.0044	0.14		mg/Kg	1	8/14/2015 6:30:36 AM	20783
Cadmium	0.56	0.061	0.096		mg/Kg	1	8/14/2015 6:30:36 AM	20783
Calcium	7500	21	48		mg/Kg	2	8/14/2015 6:32:36 AM	20783
Chromium	2.1	0.12	0.29		mg/Kg	1	8/14/2015 6:30:36 AM	20783
Cobalt	4.7	0.036	0.29		mg/Kg	1	8/14/2015 6:30:36 AM	20783
Copper	21	0.15	0.29		mg/Kg	1	8/14/2015 6:30:36 AM	20783
Iron	12000	93	240		mg/Kg	100	8/14/2015 6:13:55 AM	20783
Lead	28	0.17	0.24		mg/Kg	1	8/14/2015 6:30:36 AM	20783
Magnesium	2000	5.4	48		mg/Kg	2	8/14/2015 6:32:36 AM	20783
Manganese	440	0.085	0.19		mg/Kg	2	8/14/2015 6:32:36 AM	20783
Molybdenum	0.45	0.12	0.38		mg/Kg	1	8/14/2015 6:30:36 AM	20783
Nickel	4.4	0.11	0.48		mg/Kg	1	8/14/2015 6:30:36 AM	20783
Potassium	1200	13	96		mg/Kg	2	8/14/2015 6:32:36 AM	20783
Selenium	ND	1.0	2.4		mg/Kg	1	8/14/2015 6:30:36 AM	20783
Silver	0.20	0.030	0.24	J	mg/Kg	1	8/14/2015 6:30:36 AM	20783
Sodium	72	5.2	48		mg/Kg	2	8/14/2015 6:32:36 AM	20783
Thallium	ND	0.67	2.4		mg/Kg	1	8/14/2015 6:30:36 AM	20783
Vanadium	13	0.033	2.4		mg/Kg	1	8/14/2015 6:30:36 AM	20783
Zinc	160	0.55	2.4		mg/Kg	1	8/14/2015 6:30:36 AM	20783

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

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## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Weston Solutions  
**Project:** Site #20406.016.001.0958.01 Gold King Mine

**Lab Order:** 1508657**Lab ID:** 1508657-002**Collection Date:** 8/13/2015 12:30:00 PM**Client Sample ID:** TSA-SA002-150813-51**Matrix:** SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 6010B: SOIL METALS</b>							Analyst: ELS	
Aluminum	5800	30	300		mg/Kg	100	8/14/2015 6:15:44 AM	20783
Antimony	ND	1.2	2.5		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Arsenic	3.5	0.72	2.5		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Barium	170	0.048	0.098		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Beryllium	0.39	0.0045	0.15		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Cadmium	0.38	0.062	0.098		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Calcium	4400	11	25		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Chromium	1.4	0.12	0.30		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Cobalt	4.1	0.037	0.30		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Copper	22	0.15	0.30		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Iron	11000	96	250		mg/Kg	100	8/14/2015 6:15:44 AM	20783
Lead	48	0.17	0.25		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Magnesium	1500	2.8	25		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Manganese	620	0.22	0.49		mg/Kg	5	8/14/2015 6:59:00 AM	20783
Molybdenum	0.76	0.12	0.39		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Nickel	3.7	0.11	0.49		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Potassium	730	6.9	49		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Selenium	ND	1.1	2.5		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Silver	0.26	0.031	0.25		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Sodium	48	2.7	25		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Thallium	ND	0.69	2.5		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Vanadium	13	0.034	2.5		mg/Kg	1	8/14/2015 6:34:26 AM	20783
Zinc	200	0.56	2.5		mg/Kg	1	8/14/2015 6:34:26 AM	20783

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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	S	% Recovery outside of range due to dilution or matrix		

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## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Weston Solutions  
**Project:** Site #20406.016.001.0958.01 Gold King Mine

**Lab Order:** 1508657**Lab ID:** 1508657-003**Collection Date:** 8/13/2015 12:35:00 PM**Client Sample ID:** TSA-SA003-150813-51**Matrix:** SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 6010B: SOIL METALS

Analyst: ELS

Aluminum	8200	30	290		mg/Kg	100	8/14/2015 6:17:40 AM	20783
Antimony	ND	1.1	2.4		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Arsenic	3.7	0.71	2.4		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Barium	290	0.094	0.19		mg/Kg	2	8/14/2015 6:40:12 AM	20783
Beryllium	0.45	0.0045	0.15		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Cadmium	0.95	0.061	0.097		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Calcium	8600	21	48		mg/Kg	2	8/14/2015 6:40:12 AM	20783
Chromium	3.3	0.12	0.29		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Cobalt	4.4	0.037	0.29		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Copper	32	0.15	0.29		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Iron	13000	94	240		mg/Kg	100	8/14/2015 6:17:40 AM	20783
Lead	120	0.85	1.2		mg/Kg	5	8/14/2015 7:00:44 AM	20783
Magnesium	2300	2.7	24		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Manganese	630	0.21	0.48		mg/Kg	5	8/14/2015 7:00:44 AM	20783
Molybdenum	0.74	0.12	0.39		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Nickel	4.8	0.11	0.48		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Potassium	2000	6.8	48		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Selenium	ND	1.1	2.4		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Silver	0.47	0.031	0.24		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Sodium	55	2.6	24		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Thallium	ND	0.67	2.4		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Vanadium	20	0.034	2.4		mg/Kg	1	8/14/2015 6:38:15 AM	20783
Zinc	350	1.1	4.8		mg/Kg	2	8/14/2015 6:40:12 AM	20783

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

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## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Weston Solutions  
**Project:** Site #20406.016.001.0958.01 Gold King Mine

**Lab Order:** 1508657**Lab ID:** 1508657-004**Collection Date:** 8/13/2015 1:05:00 PM**Client Sample ID:** TSA-SA004-150813-51**Matrix:** SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 6010B: SOIL METALS

Analyst: ELS

Aluminum	2400	30	300		mg/Kg	100	8/14/2015 6:19:13 AM	20783
Antimony	ND	2.3	4.9		mg/Kg	2	8/14/2015 6:44:06 AM	20783
Arsenic	4.3	0.72	2.5		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Barium	820	0.24	0.49		mg/Kg	5	8/14/2015 7:02:23 AM	20783
Beryllium	0.23	0.0046	0.15		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Cadmium	0.21	0.063	0.099		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Calcium	2800	11	25		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Chromium	0.55	0.12	0.30		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Cobalt	3.7	0.038	0.30		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Copper	31	0.15	0.30		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Iron	17000	96	250		mg/Kg	100	8/14/2015 6:19:13 AM	20783
Lead	120	0.86	1.2		mg/Kg	5	8/14/2015 7:02:23 AM	20783
Magnesium	670	2.8	25		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Manganese	400	0.22	0.49		mg/Kg	5	8/14/2015 7:02:23 AM	20783
Molybdenum	1.9	0.12	0.40		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Nickel	2.0	0.11	0.49		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Potassium	300	6.9	49		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Selenium	ND	1.1	2.5		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Silver	0.43	0.031	0.25		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Sodium	39	2.7	25		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Thallium	ND	3.4	12		mg/Kg	5	8/14/2015 7:02:23 AM	20783
Vanadium	29	0.034	2.5		mg/Kg	1	8/14/2015 6:42:07 AM	20783
Zinc	490	2.8	12		mg/Kg	5	8/14/2015 7:02:23 AM	20783

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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	S	% Recovery outside of range due to dilution or matrix		

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Lab Order: 1508657

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## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Weston Solutions  
**Project:** Site #20406.016.001.0958.01 Gold King Mine

**Lab Order:** 1508657

**Lab ID:** 1508657-005

**Collection Date:** 8/13/2015 1:17:00 PM

**Client Sample ID:** TSA-SA005-150813-51

**Matrix:** SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 6010B: SOIL METALS</b>						Analyst: ELS		
Aluminum	4000	30	300		mg/Kg	100	8/14/2015 6:21:00 AM	20783
Antimony	ND	1.2	2.5		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Arsenic	3.2	0.72	2.5		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Barium	360	0.096	0.20		mg/Kg	2	8/14/2015 6:47:49 AM	20783
Beryllium	0.28	0.0046	0.15		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Cadmium	0.33	0.063	0.099		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Calcium	3500	11	25		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Chromium	0.82	0.12	0.30		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Cobalt	3.5	0.038	0.30		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Copper	19	0.16	0.30		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Iron	11000	97	250		mg/Kg	100	8/14/2015 6:21:00 AM	20783
Lead	120	0.87	1.2		mg/Kg	5	8/14/2015 7:04:12 AM	20783
Magnesium	1000	2.8	25		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Manganese	490	0.088	0.20		mg/Kg	2	8/14/2015 6:47:49 AM	20783
Molybdenum	1.0	0.12	0.40		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Nickel	2.7	0.11	0.50		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Potassium	540	7.0	50		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Selenium	ND	1.1	2.5		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Silver	0.22	0.032	0.25	J	mg/Kg	1	8/14/2015 6:46:03 AM	20783
Sodium	41	2.7	25		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Thallium	ND	0.69	2.5		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Vanadium	14	0.035	2.5		mg/Kg	1	8/14/2015 6:46:03 AM	20783
Zinc	330	1.1	5.0		mg/Kg	2	8/14/2015 6:47:49 AM	20783

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 5 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
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## Analytical Report

Lab Order: 1508657

Date Reported:

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Weston Solutions

Lab Order: 1508657

Project: Site #20406.016.001.0958.01 Gold King Mine

Lab ID: 1508657-006

Collection Date: 8/13/2015 1:26:00 PM

Client Sample ID: TSA-SA006-150813-51

Matrix: SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 6010B: SOIL METALS

Analyst: ELS

Aluminum	5600	29	290		mg/Kg	100	8/14/2015 6:23:08 AM	20783
Antimony	ND	2.3	4.8		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Arsenic	4.8	1.4	4.8	J	mg/Kg	2	8/14/2015 6:57:13 AM	20783
Barium	340	0.093	0.19		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Beryllium	0.48	0.0088	0.29		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Cadmium	0.19	0.12	0.19	J	mg/Kg	2	8/14/2015 6:57:13 AM	20783
Calcium	4300	21	48		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Chromium	2.9	0.24	0.58		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Cobalt	4.7	0.073	0.58		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Copper	17	0.30	0.58		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Iron	17000	93	240		mg/Kg	100	8/14/2015 6:23:08 AM	20783
Lead	30	0.34	0.48		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Magnesium	1700	5.4	48		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Manganese	830	0.21	0.48		mg/Kg	5	8/14/2015 7:06:03 AM	20783
Molybdenum	1.1	0.24	0.77		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Nickel	4.6	0.22	0.96		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Potassium	1000	13	96		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Selenium	ND	2.1	4.8		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Silver	0.19	0.061	0.48	J	mg/Kg	2	8/14/2015 6:57:13 AM	20783
Sodium	52	5.2	48		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Thallium	ND	1.3	4.8		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Vanadium	27	0.067	4.8		mg/Kg	2	8/14/2015 6:57:13 AM	20783
Zinc	170	1.1	4.8		mg/Kg	2	8/14/2015 6:57:13 AM	20783

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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	S	% Recovery outside of range due to dilution or matrix		

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